



Mapping Buffelgrass for Strategic Planning and Funding

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**Saguaros imbedded in
flammable buffelgrass
on south slope of
Catalina Mts**



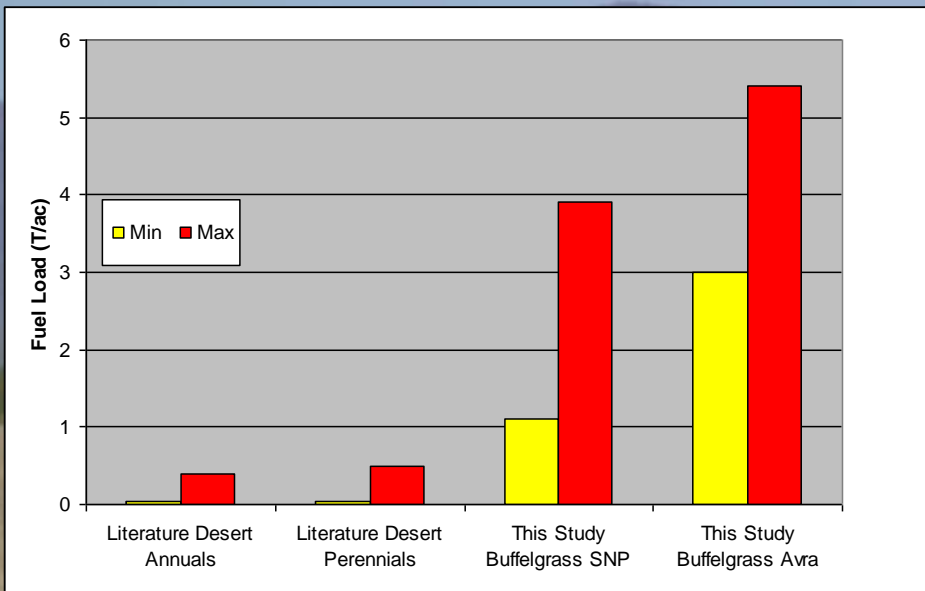
Sonoran Desert vegetation poorly adapted to fire



Buffelgrass Attributes

- Perennial C4 bunchgrass from Africa/S. Asia
- Individuals can live 20 yrs
- Swollen stem bases allow it to store carbs & survive grazing, drought & fire
- Apomictic & rhizomatous, seeds viable for up to 4 yrs
- Susceptible to cold
- Introduced throughout subtropics; escapes readily
- Fire temperatures 1400-1800°F, 16-18' flames





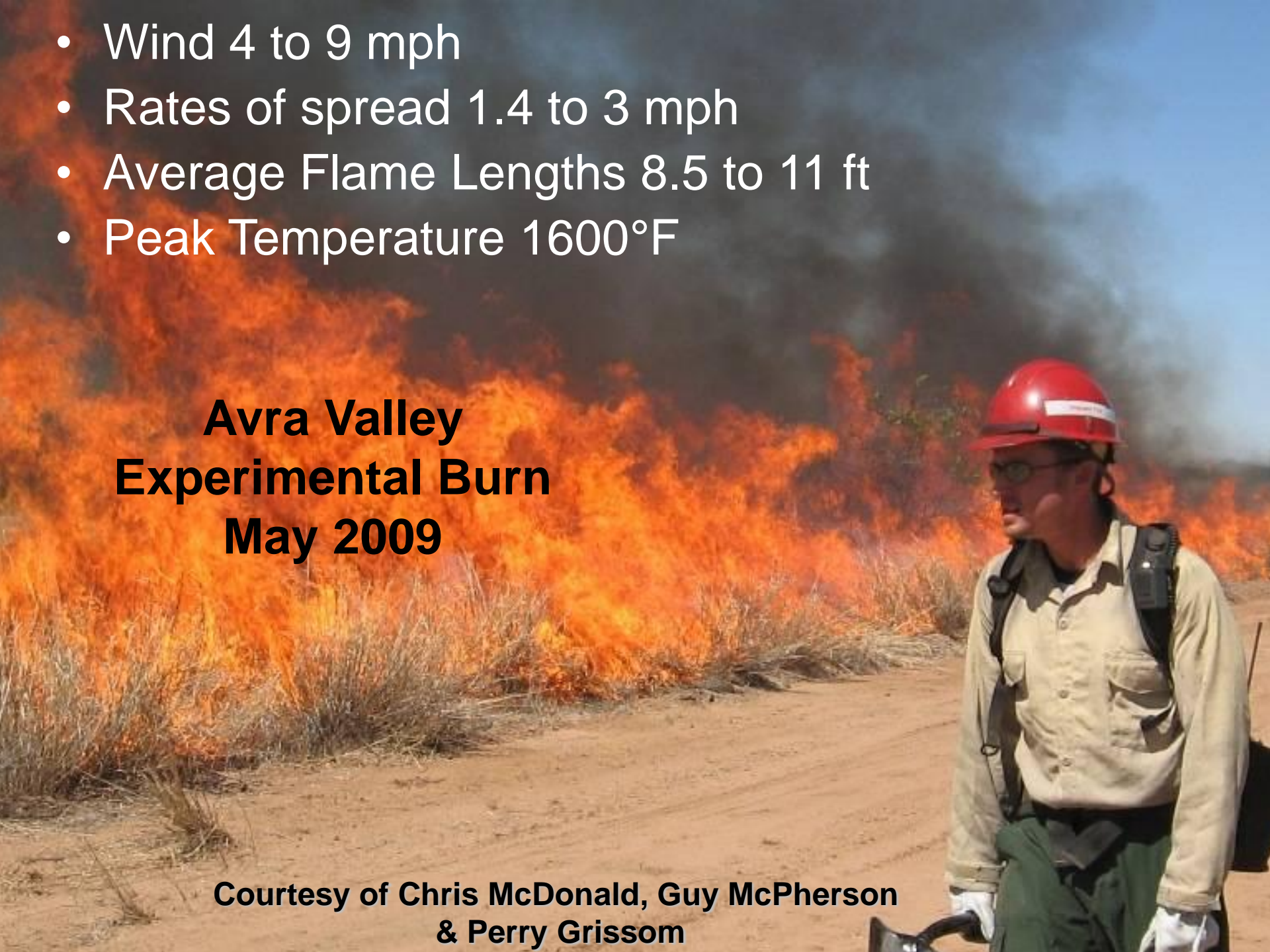
Buffelgrass fuel loads range from 1.1 to 3.8 tons/acre at Saguaro NP and 3 to 5.3 tons/acre in Avra Valley



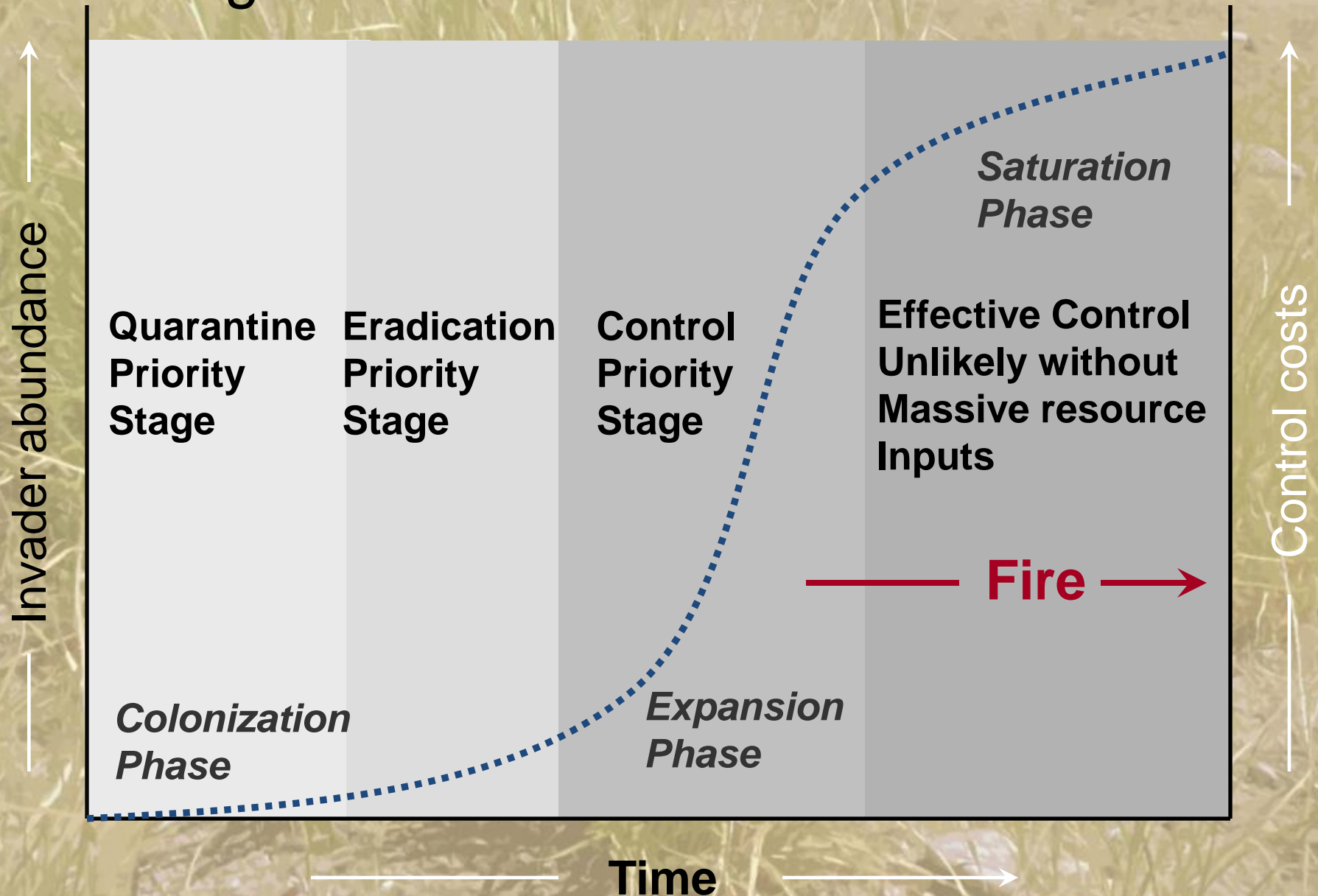
- Wind 4 to 9 mph
- Rates of spread 1.4 to 3 mph
- Average Flame Lengths 8.5 to 11 ft
- Peak Temperature 1600°F

**Avra Valley
Experimental Burn
May 2009**

**Courtesy of Chris McDonald, Guy McPherson
& Perry Grissom**



Logistic Growth Curve for Invasions



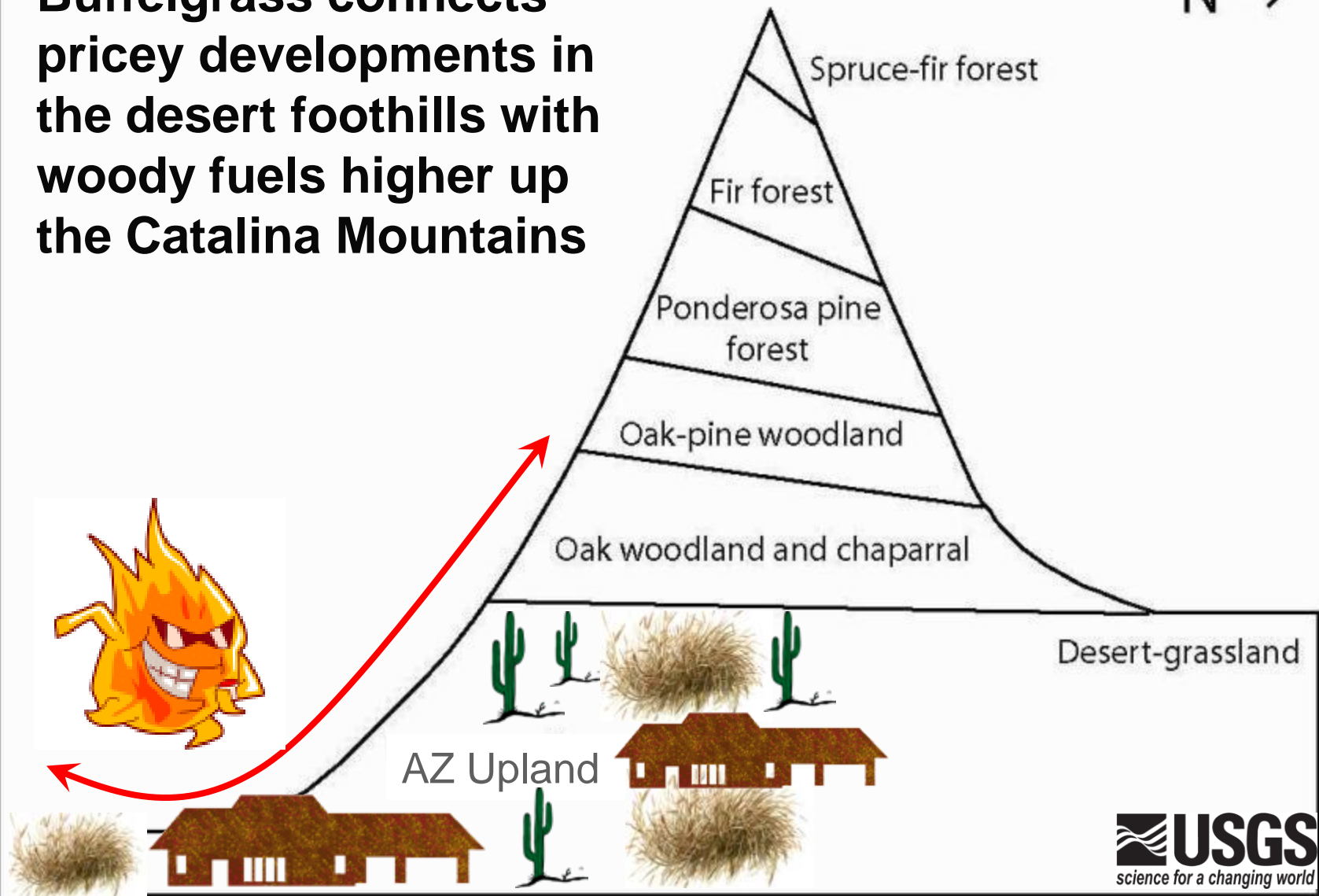
Buffelgrass on the South slope of the Santa Catalina Mountain Range



Photo taken November 2007

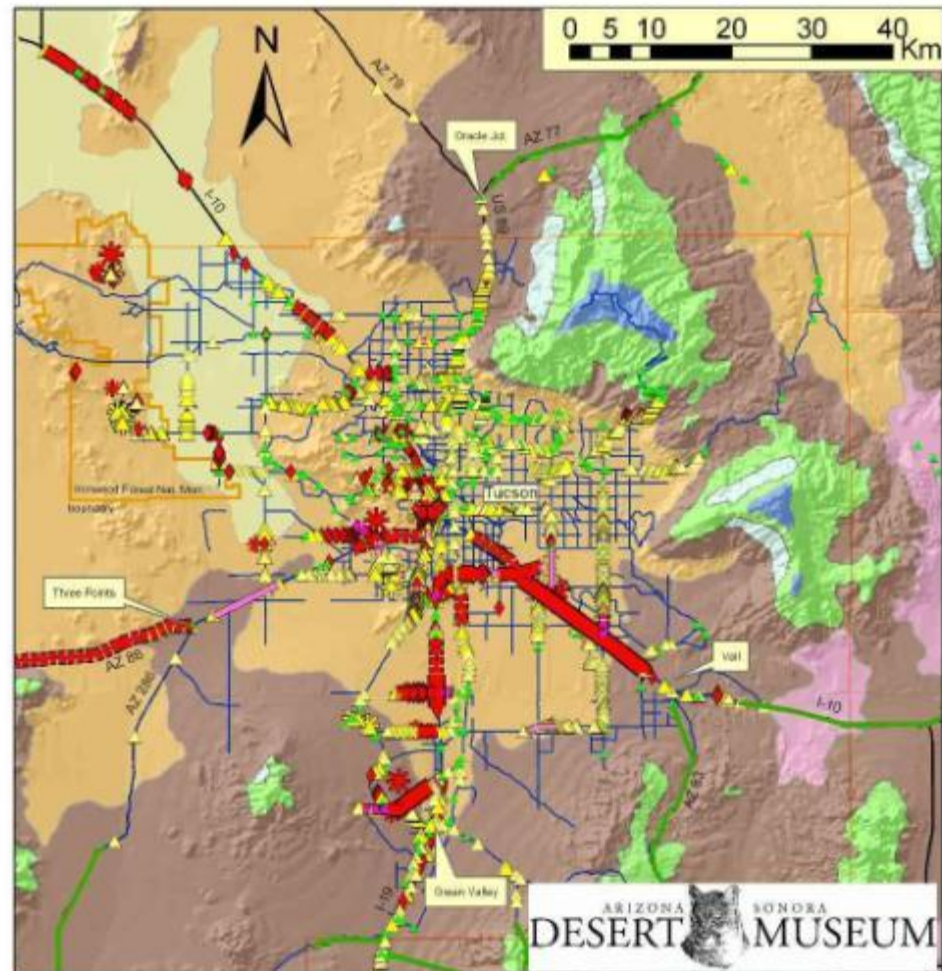
Buffelgrass connects pricey developments in the desert foothills with woody fuels higher up the Catalina Mountains

N→



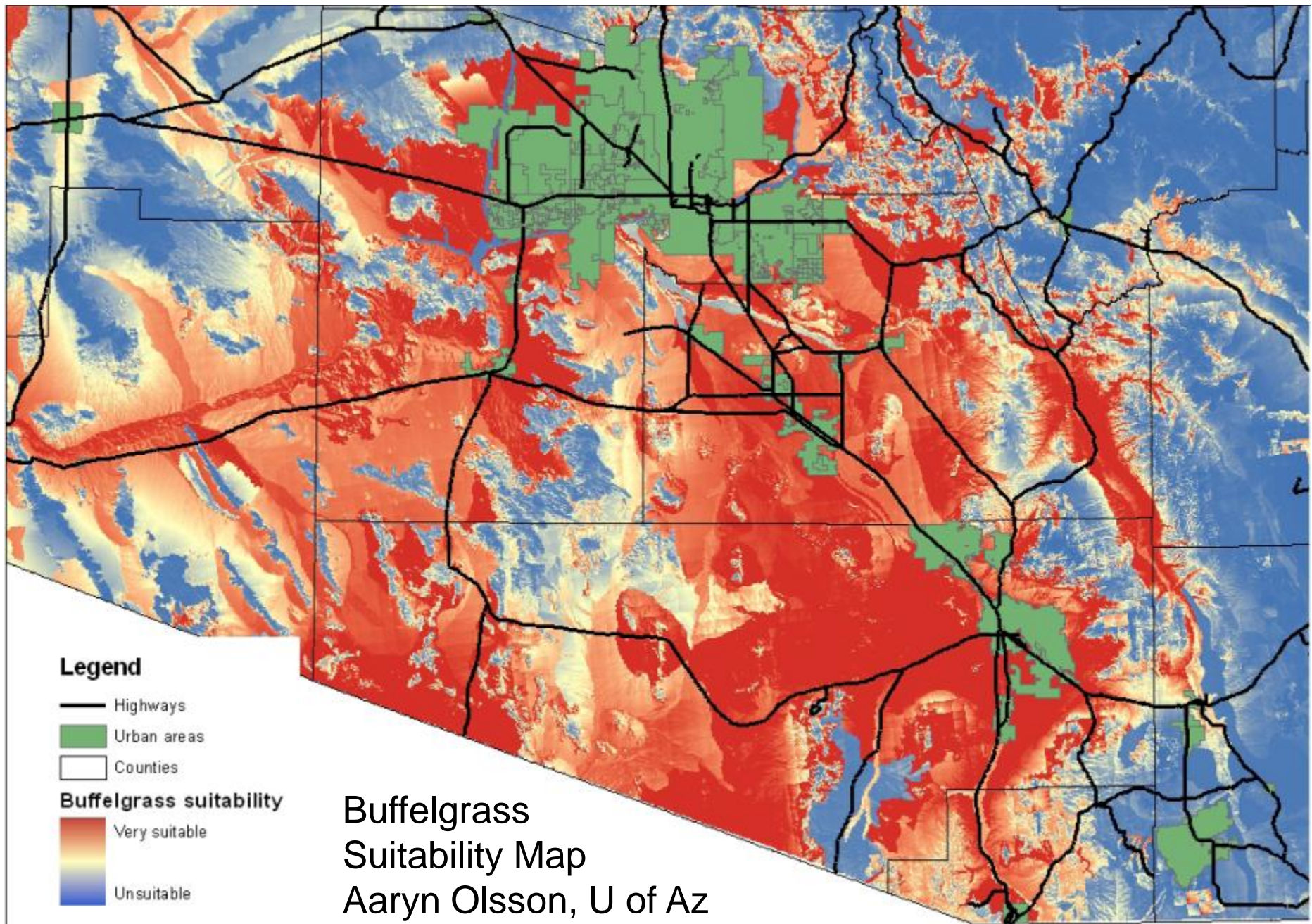
Buffelgrass Inventory along major corridors

Buffelgrass Distribution in Greater Tucson

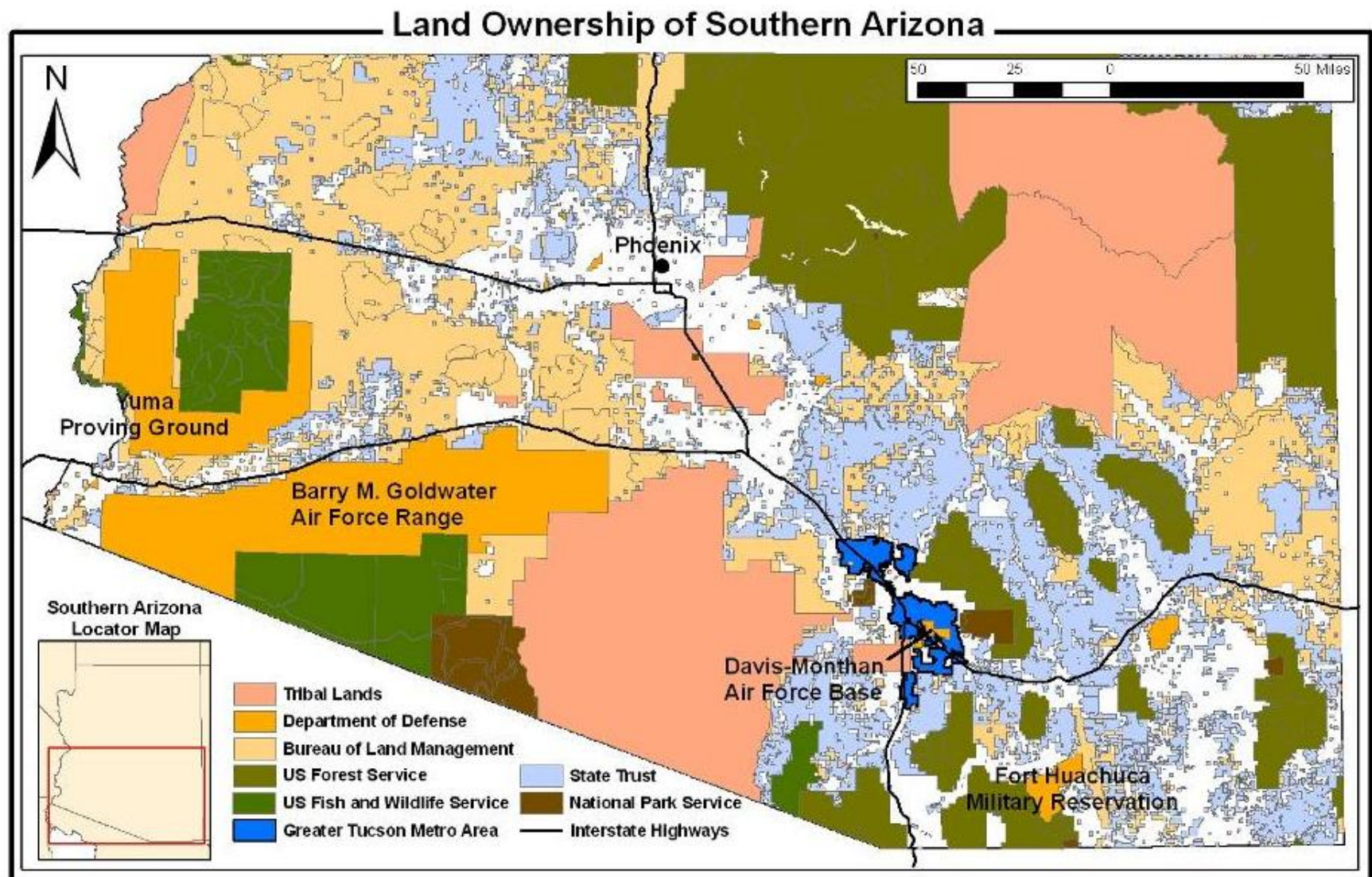


Legend

Continuous roadside	Point data	Beyond Right of Way	Vegetation	
Surveyed - no buffer	Density	Density	AZ UPLAND SONORAN DES	MICHIGAN EVERGREEN WOODLAND
Density	None	Sparse	CHIHUAHUA DESERT SCRUB	PETRAEAL MONTANE CONIFER FOREST
Continuous/moderate	Sparse	Moderate	INTERIOR CHAPARRAL	PLAINS & GREAT BASIN GRASSLAND
Continuous/combustible	Moderate	Combustible	LOWER COLD R.V. SONORAN DES	SEMI-DESERT GRASSLAND
Dominant/combustible	Combustible	Dominant/combustible		BIVALCAN THORN SCRUB
Interspersed sparse	Dominant/combustible			
Interspersed moderate				
Interspersed combustible				



Multiple Jurisdictions – Complex Coordination





- **Buffelgrass Summit in February of 2007 – with all partners**
- **Plan Development**
 - Began: July 2007
 - Completed: Feb 2008
- **Main Issue: Buffelgrass invading the Sonoran Desert; altering ecosystem and increasing wildfire risk**
- **Recommendation: Management Goal #2**
 - Create Buffelgrass Coordination Center

**Southern Arizona
Buffelgrass Strategic Plan**



Partners

- Arizona Department of Transportation - Tucson
- Arizona Native Plant Society
- Arizona-Sonora Desert Museum
- Arizona State Parks -Resource Division
- Bureau of Land Management -Tucson Field Office
- City of Tucson
- –City Manager
- –Department of Urban Planning and Design
- Coalition for Sonoran Desert Protection
- Comcast
- Cox Communications
- Kinder Morgan Energy Partners
- National Park Service –Saguaro National Park
- Pima Association of Governments (PAG)
- Pima County
- –County Administrator
- –Department of Natural Resources, Parks and Recreation
- –Development Services Department
- Office of Conservation & Sustainable Development
- Rural Metro Fire Department
- University of Arizona
- –Department of Agricultural Economics (Extension)
- –Office of Arid Lands Studies
- –School of Natural Resources
- USDA Forest Service –Coronado National Forest
- U.S. Geological Survey
- Sonoran Desert Weedwackers
- Sonoran Institute
- Southern Arizona Leadership Council
- Tohono O'odham Nation
- Tucson Electric Power Company
- Tucson Association of Realtors
- Trico Electric Cooperative

SOUTHERN ARIZONA



Buffelgrass

COORDINATION
CENTER

- ***Sarah Smallhouse***, Pres., T. R. Brown Foundations
- ***Jim Kiser***, VP, So. Arizona Leadership Council
- ***Erik Bakken***, VP, Tucson Electric Power
- ***Lisa Lovallo***, VP, Cox Communications-SoAz
- ***Teresa Olson***, Tucson Assoc. of Realtors
- ***Chuck Huckelberry***, Pima County Administrator
- ***Claire Zucker***, Pima Association of Govt's
- ***Tom Brandhuber***, Fire Chief, Pima Rural Metro
- ***Lisa Graumlich***, SNR, University of Arizona
- ***Carolyn Campbell***, Coalition for Sonoran Desert Protection
- ***Marilyn Hanson***, Sonoran Desert Weedwackers
- ***Rick Brusca***, Arizona-Sonora Desert Museum
- ***Julio Betancourt***, U. S. Geological Survey
- ***Darla Sidles***, Supt., Saguaro National Park
- ***Jeanine Derby***, Sup., Coronado National Forest
- ***Michael Taylor***, Deputy Director, BLM, AZ

Our Mission and Goals

- Provide a regional information center that emphasizes an integrated management approach to address and control buffelgrass (*Pennisetum ciliare*) in Southern Arizona
- Break the cycle between non-native invasive grasses and the fire regimes they promote
- Mitigate the adverse ecological effects that might result from the synergy of invasives, altered wildfire regimes, and climate change
- We will accomplish this by coordinating and assisting the multiple existing efforts on public and private lands.

Integrated Assessment of Buffelgrass Distribution & Control in S. Arizona





SABCC/Logan Simpson Mapping Project

- **Buffelgrass Assessment**

- *Systematic approach to map buffelgrass distribution & abundance*
- *Develop a regional ranking system for identifying priority areas*
- *Align high priority treatment areas with cost effective sustainable prescriptions supported by local governments, agencies & residents*

- **Partners - Collaborative Working Group for design and data sharing**

- *Framework for data collection, analysis and strategic planning*
- *Saguaro NP, Coronado NF, Pima Assoc. of Govts, Pima County, ADOT, Towns of Sahuarita, Oro Valley, Marana, Firescape, Utilities (Cox Communications, Comcast, TEP, TRICO, SWGas)*

- **Current Status – Planning phase**

- *Analysis & consolidation of existing data underway*
- *Development of priority ranking system (Exclusion/Inclusion matrix)*
- *Mapping and data management protocols*



Caution
High Fire Risk

**Buffelgrass
Area**

***Learn more at
www.rmfire.com***



Rural/Metro Fire Department